APPENDIX A

New Jersey Division of Fish & Wildlife Field Data Sheets

NEW JERSEY DIVISION OF Fish and Wildlife

This is supplemental sheet ☐ of ☐

SUPPLEMENTAL FIELD SURVEY SHEET - FISH SAMPLES

Site Name: ______ **Date:** ______

County: ______

Location: ______

Sample #	Species Name	Number	Length (mm)	Weight (kg)	Condition	Scale Sample?	Age	Sex
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NEW JERSEY DIVISION OF Fish and Wildlife

NEW JERSEY DIVISION OF FISH AND WILDLIFE
BUREAU OF FRESHWATER FISHERIES
STREAM SURVEY DATA SHEET

Version 3.2

☐ Entered
Date:

Waterbody: **Alt. Name:** County: Municipality: Drainage: WMA: Date: Crew: Weather: Air Temp: °C

Reason: (Please circle one)

Classification Fish Kill Fish Salvage IBAA
Other _____ Reproduction Check Reques
Species Mgmt. Species Study _____ Stream Encroachment Review
Trout Prod Inventory Update File

Location:

LATDEG: LONDEG:
LATMIN: LONMIN:
LATSEC: LONSEC:

Take one GPS reading at mid-point of survey stretch

Classification: USGS Quad:

Stream Depth: m. Stream Width: m. Sample Length: m. Time: sec.

Electrofishing Gear: (Please circle one)

Type VII POW SR Backpack (DC) Type VII SR Backpack (DC) Model 12-B Backpack (DC)
Type LR-24 Backpack (DC) Three Paddle Stream Rig (AC) Two Paddle Stream Rig (AC) (DC)
14' Coffelt Boat 14 Smith Root Boat
14.5 Smith Root Boat 12' Whip Attenna Boat

C flashing - specific conductance

Water Chemistry

Time (military)	D.O. (mg/l)	Temperature °C	pH	Conductivity (µS/cm)	Alkalinity (mg/l)	Specific Conductance

Habitat Information

Abundance *Substrate*

% %
% %
% %

Shade Index

☐ Open ☐ Scattered ☐ Moderate
☐ Complete ☐ Heavy

Notes

Incidence of Occurrence

Species	Number	Incidence	Value
		Occurrence	
Bass, Largemouth		8.8	
Bass, Rock		15.6	
Bass, Smallmouth		9.7	
Bluegill		6.5	
Bullhead, Brown		6.9	
Carp		0.0	
Creek Chub		30.7	
Creek Chubsucker		1.1	
Dace, Blacknose		32.1	
Dace, Longnose		37.7	
Darter, Tessellated		13.4	
Eel, American		14.1	
Fallfish		17.6	
Goldfish		11.1	
Killifish		0.0	
Minnow, Cutlips		3.7	
Mudminnow		4.9	
Perch, Yellow		0.0	
Pickerel, Chain		3.4	
Pickerel, Redfin		7.6	
Pumpkinseed		15.9	
Redbreast Sunfish		6.3	
Sculpin, Slimy		90.0	
Shiner, Common		9.1	
Shiner, Golden		1.9	
Shiner, Satinfin		5.3	
Stonecat		0.0	
Sucker, White		19.0	
Sunfish, Green			
Trout, Brook		100.0	
Trout, Brown		100.0	
Trout, Rainbow		100.0	
		Total	
	Number of Species		
		Average	

Equipment Checklist:

- Rubber Gloves
- Buckets
- Nets
- D.O. Meter
- pH Meter
- Conductivity Meter
- Measuring Tape (300')
- Measuring Board
- Meter Stick
- Alkalinity Bottle (500ml)
- Sample Cooler
- pH Calibration Packets
- GPS Unit
- Clipboard
- Datasheets
- Styrofoam Coolers
- Camera
- Tricaine

Large Stream Rig

- Generator
- Circuit Box
- Cable
- Anode/Connectors
- Electrodes
- Float

Backpack Electrofisher

- Battery
- Electrode

Classification Based Upon Sampling: _____ Change to SWQS Required: ☐ Yes ☐ No

NJ Division of Fish and Wildlife

Bureau of Freshwater Fisheries

Habitat Assessment - Datasheet

High Gradient Streams

Stream Name	Date
Location	
WMA	Drainage
Assessment Completed By:	Weather

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate / Available Cover	Greater than 70 % of substrate favorable for epifaunal colonization and fish cover;mix of snags submerged logs, undercut banks cobble and other stable habitat and at stage to allow full colonization potentia. (Logs/snag are not new fall and not transient.)	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale)	20-40 % mix of stable habitat;habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
2. Embeddedness Assessed in riffle area	Gravel, cobble and boulder particles are 0-25 % surrounded by fine sediment. Cobble layering provides habitat diversity.	Gravel, cobble and boulder particles are 25-50 % surrounded by fine sediment	Gravel, cobble and boulder particles are 50-75% surrounded by fine sediment	Gravel, cobble and boulder particles are more than 75 % surrounded by fine sediment
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
3. Velocity/Depth Regime	All four velocity/depth regimes are present: (slow-deep, slow-shallow, fast deep, fast shallow) Slow is < 0.3 m/s, deep is > 0.5 m	Only 3 of the 4 regimes are present. If fast-shallow is missing, score lower than if missing other regimes.	Only 2 of the 4 regimes are present. If fast-shallow or slow shallow are missing score low.	Dominated by 1 velocity/depth regime. Usually slow deep
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5 % of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5 -30% of the bottom affected; slight deposition in pools	Moderate depostion of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected;sediment deposits at obstructions, constrictons and bends;moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development;more than 50% of the bottom changing frequently;pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills > 75% of the available channel; or < 25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present in standing pools
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1

Above parameters are to be evaluated for the length of the sample reach only.

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6.Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern	Some channelization present;usually in areas of bridge abutments;evidence of past channelization, ie. dredging (greater than past 20 yr) may be present but recent channelization is not	Extensive channelization and/or embankments or shoring structures present on both banks; and 40-80% of the stream reach is channelized and disrupted.	Banks shored with gabion or cement;over 80% of the stream reach channelized and disupted. Instream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent;ratio of distance between riffles divided by width of stream < 7:1 (generally 5 to 7);In streams where riffles are continuous, placement of boulders or other large natural obstructions is important. Variety of habitat is key.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 and 15.	Occassional rifle or bend, bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 and 25	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio > 25.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
8. Bank Stability Left and right bank determined by facing downstream	Banks stable:evidence of erosion or bank failure absent or minimal;little or potential for future problems. < 5% of the bank affected	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion;high erosion potential during floods.	Unstable;many eroded areas:"raw" areas frequent along straight sections and bends;obvious bank sloughing;60-100% of bank has erosional scars.
SCORE	**Left Bank** 10 9	8 7 6	5 4 3	2 1 0
	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or non woody plants; vegetative disruption through grazing or mowing minimal or not evident;almost all plants allowed to grow naturally	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well represented;disruption evident but not affecting full growth potential to any great extent;more than 1/2 potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation;disruption obvious;patches of bare soil or closely cropped vegetation common;less than one-half of the potential plant stubble height remaining..	Less than 50 % of the streambank surfaces covered by vegetation;disruption of streambank is very high;vegetation has been removed to 5 cm or less tin average stubble height.
SCORE	**Left Bank** 10 9	8 7 6	5 4 3	2 1 0
	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width	Width of riparian zone > 18 meters;human activities (i.e. parking lots, roadbeds, clear cuts, lawns or crops) have not impacted zone.	Width of riparian zone 12-18 meterts;human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters;human activities have impacted zone agreat deal.	Width of riparian zone < 6 meters; little or no riparian vegetation due to human activities.
SCORE	**Left Bank** 10 9	8 7 6	5 4 3	2 1 0
	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Above parameters are to be evaluated 1 sampling length broader upstream and 1 sampling length broader downstream

TOTAL SCORE ☐

NJ Division of Fish and Wildlife
Bureau of Freshwater Fisheries

Habitat Assessment - Datasheet
Low Gradient Streams

Fish and Wildlife

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Location		
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SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
2. Pool Substrate	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud or clay; mud may be dominant; some root mats and submerged vegetation present	All mud or clay or sand bottom; little or no root mat;no submerged vegetation	Hard-pan clay or bedrock;no root mat or vegetation
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
3. Pool Variability	Even mix of large-shallow (> half the stream cross section and < 1 m deep), large-deep(> half the stream cross section and > 1 m deep), small shallow (< half the stream cross section and < 1 m depth), small-deep (< half the stream cross section and > 1m depth) pools present.	Majority of pools large deep; very few shallow pools present (< 1 m in depth)	Shallowpools (< 1 m depth) much more prevalent than deep pools (> 1 m depth)	Majority of pools small and shallow (< half the stream cross section and < 1m in depth) or pools absent.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 20 % of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools	Moderate depostion of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected;sediment deposits at obstructions, constrictons and bends;moderate deposition of pools	Heavy deposits of fine material, increased bar development;more than 80% of the bottom changing frequently;pools almost absent due to substantial sediment deposition.
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7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was a straight line. (Note-channel braiding is considered normal in coastal plains and other low lying areas. This parameter is not easily rated in these	The bends in the stream increase the stream length 1 to 2 times longer if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
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